

REMARKS

Applicants appreciate the detailed examination evidenced by the Official Action mailed October 7, 2005 (hereinafter "the Official Action"). Applicants also appreciate the allowance of Claims 9-13 and the indication that Claims 5-8, 24-29, 35-37, and 43-45 would be allowable if rewritten as suggested by the Examiner.

Official Action, page 8. In response, Applicants have amended Claim 31 to include the recitations of allowable Claim 35, thereby placing Claims 31-34 in condition for allowance, which is respectfully requested.

With respect to the remaining claims, Applicants respectfully maintain that the cited references, either singularly or in combination, do not disclose or suggest at least:

transmitting a message from a networked GPS time server to a mobile station, the message including GPS referenced time information indicating an elapsed GPS referenced time interval at the networked GPS time server between receiving a request for GPS time assistance at the networked GPS time server and transmitting the message to the mobile station,

as recited in independent Claim 1 and as similarly recited in independent Claims 21 and 39 (amended). Applicants respectfully request the withdrawal of all rejections and the allowance of all claims for at least the reasons described herein.

Independent Claims 1, 21, and 39 are Patentable Over the Cited References.

Claims 1-4, 21-22, 31-34, and 39-42 stand rejected under 35 U.S.C. § 103 over U.S. Patent No. 6,429,811 to Zhao et al. ("Zhao") in view of U.S. Patent No. 5,938,721 to Dussell et al. ("Dussell") and further in view of U.S. Patent No. 6,324,170 to McClellon et al. ("McClellon"). *Official Action, page 2.* Applicants respectfully traverse the rejection of independent Claims 1, 21, and 39 (amended)¹ as even if the cited references were combined, the combination would not disclose or suggest all of the recitations of the independent claims and, further, there is no clear

¹ Claim 39 has been amended to include the recitations of original Claim 41 (now canceled). Accordingly, the recitations of amended Claim 39 are similar to those in original Claims 1 and 21.

and particular evidence of a motivation or suggestion to combine these references as required under Section 103.²

Independent Claim 1 recites in part:

transmitting a message from a networked GPS time server to a mobile station, the message including GPS referenced time information indicating an elapsed GPS referenced time interval at the networked GPS time server between receiving a request for GPS time assistance at the networked GPS time server and transmitting the message to the mobile station.

Independent Claims 21 and 39 include similar recitations.

As emphasized by the highlighted claim language, Zhao, Dussell, and McClellon, taken either singularly or in combination, do not disclose or suggest at least "transmitting a message . . . including GPS referenced time information indicating an elapsed GPS referenced time interval at the networked GPS time server between receiving a request for GPS time assistance at the networked GPS time server and transmitting the message to the mobile station."

In particular, Zhao discusses a system to provide assisted global positioning data to mobile terminals. One approach outlined by Zhao includes transmitting a compressed GPS assistance message (including a GPS satellite's coordinate position modified according to a satellite clock correction) rather than standard ephemeris and clock correction data. *See, for example, Abstract of Zhao.* Another approach outlined in Zhao includes transmitting the compressed GPS assistance message without redundant or predictable information to reduce the traffic associated with providing assisted GPS information. *See, for example, Abstract of Zhao.* In other words, Zhao discusses sending a reduced amount of GPS information to the mobile. Accordingly, as understood by Applicants, Zhao discusses sending compressed GPS data to the mobiles which is based on the original GPS information received from the satellites. Zhao, therefore, does not disclose or suggest "transmitting a message . . . indicating an elapsed GPS referenced time interval at the networked GPS time server between receiving requests for GPS time assistance at the network GPS time server and

² Applicants respectfully note that the rejection of independent Claim 31 has been obviated by amendment by the inclusion of the recitations of allowable Claim 35. Accordingly, the rejection of independent Claim 31 has been obviated and also placing Claims 32-34 in allowable form.

transmitting the message to the mobile station" as recited in independent Claims 1, 21, and 39.

One of the passages of Zhao relied on by the Official Action in support of the rejection reads:

Choosing each individual base station of the system as the reference point R allows for control of the error induced in the range measurement. Compared with the distance from the location U of the mobile station 302 to the location of the satellite 320, the separation distance D between the base station 302 and the mobile station 304 is very short. Let us assume that the base station 302 is within 10 km of the mobile station 304 (valid most of the time in cellular systems). Also, it is known that the satellite clock correction cannot be any larger than 5 ms, since this is the maximum magnitude of the parameter. The maximum error in satellite predicted range is a function of this clock error and the separation distance D. Then, the calculated maximum error in the measured range based on the modified or projected satellite orbit, a 10 km separation distance D, and 5 ms of clock correction is approximately 1 meter, which is acceptably small given other system errors such as multipath, receiver noise, ionospheric delay, and other quantization effects. *Zhao, Column 8, lines 23-41.*

In particular, the Official Action appears to interpret the above-cited passage of Zhao to mean that the system therein accounts for the distance between the mobile and the GPS receiver in stating "the separation distance D between the BTS and the mobile is very short" and "the calculated maximum erro[sic] in the measured range based on the . . . 10 km separation distance D . . ."

Applicants respectfully point out that this passage relied on by the Official Action actually states that the distance D shown in Figure 3 is negligible, and therefore need not be accounted for. In particular, the passage of Zhao reads: "compared with the distance from the location U of the mobile station 304 to the location of the satellite 320, the separation distance D between the base station 302 and the mobile station 304 is very short" and goes on to state that "the calculated maximum error in the measured range based on the modified or projected satellite orbit, a 10 km separation distance D, and 5 ms of clock correction is approximately 1 meter, which is acceptably small given the other system errors such as multipath, receiver noise, ionospheric delay, and other quantization effects." *Zhao, Column 8,*

lines 23-41. Therefore, as understood by Applicants, the passage relied on by the Official Action actually means that the distance D shown in Figure 3 between the mobile station and the base station can be ignored, and therefore the propagation time of a message between the two need not be accounted for. Therefore, Applicants respectfully submit that the passage relied on by the Official Action does not disclose or suggest "transmitting a message that indicates an elapsed GPS referenced time interval at the network GPS time server between receiving a request for GPS time assistance at the network GPS time server and transmitting the message to the mobile station" as recited in Claims 1, 21, and 39.

Furthermore, even assuming for the sake of argument that the cited passage of Zhao did discuss accounting for the transmission time, the transmission time associated with the distance D is not incurred at the network GPS time server, but rather is incurred during the travel time of the message from the base station to the mobile station. Therefore, even if the cited passage of Zhao were considered for the sake of argument to discuss accounting for propagation time, the propagation time discussed would not disclose or suggest the type of delay recited in Applicants' independent Claims 1, 21, and 39. Accordingly, Zhao does not disclose or suggest all of the recitations of the independent claims for at least the reasons described above.

Applicants further submit that Dussell also does not disclose or suggest the recitations shown to be missing from Zhao above. In particular, Dussell discusses relating tasks to be accomplished to geographic location coordinates so that the user may be alerted to complete the task based on the detected location of the system.

Abstract of Dussell. However, Dussell does not disclose or suggest, at least, "transmitting a message from a networked GPS time server . . . including GPS referenced time information indicating an elapsed GPS referenced time interval at the networked GPS time server between receiving a request for GPS time assistance at the networked GPS time server and transmitting the message to the mobile station" as recited in independent Claims 1, 21, and 39. In particular, Dussell appears to show that the "message" cited by the Official Action actually includes geographic location coordinates provided from the location determination unit 30 to the requesting device. However, as understood by Applicants, the geographic location coordinates provided

by the location determination unit 30 **do not include GPS time information**. To the contrary, Dussell reads:

At some point, location determination unit 30 will receive and process GPS signals in the manner described above and will provide geographic location coordinates to mobile computer system 20 via interface 38. These geographic location coordinates will correspond to the geographic location of antenna 32, however, it is assumed that mobile computer system 20 is in close enough proximity to antenna 32 such that the location of antenna 32 is substantially the same as the location of mobile computer system 20. This condition will be satisfied, for example, if mobile computer system 20 is transported within the same vehicle as that on which antenna 32 is located. Antenna 32 may be a patch antenna or other antenna suitable for mounting on a vehicle and capable of receiving GPS signals transmitted by GPS satellites or pseudolites. *Dussell, Column 8, lines 12-26.*

As understood by Applicants, the above-cited passage of Dussell means that the information provided by the location determination unit 30 includes geographic location coordinates, not **time** information because the mobile computer system 20 does not require GPS time information as the geographic location coordinates already indicate the location of the mobile computer system 20. Therefore, Dussell also does not disclose or suggest, at least, "transmitting a message from a networked GPS time server . . . including GPS referenced time information indicating an elapsed GPS referenced time interval at the networked GPS time server between receiving a request for GPS time assistance at the networked GPS time server and transmitting the message to the mobile station," as recited in independent Claims 1, 21, and 39.

Applicants further submit that McClellon also does not disclose or suggest the recitations shown above to be missing from Dussell and Zhao. In particular, McClellon relates to an echo cancellation system that measures round trip delay in packet switched networks used to conduct VoIP telecommunications. Accordingly, McClellon does not include any disclosure or suggestion of a networked GPS time server, or messages transmitted from the mobile to the networked GPS time server and a message transmitted from the networked GPS time server including "GPS referenced time information indicating an elapsed GPS referenced time interval at the networked GPS time server between receiving a request for GPS time assistance at

the networked GPS time server and transmitting the message to the mobile station," as recited independent Claims 1, 21, and 39.

Furthermore, even assuming for the sake of argument that McClenon could somehow be related to networked GPS time servers, the estimation discussed in McClenon is for a total round trip delay, whereas independent Claims 1, 21, and 39 recite a message including GPS referenced time information indicating an elapsed GPS referenced time interval at the network GPS time server between receiving a request . . . and transmitting the message. Therefore, as understood by Applicants, even if McClenon were considered related to networked GPS time servers, the estimations made therein do not include the indication of time intervals as recited in Applicants' independent claims. Accordingly, McClenon also does not disclose or suggest all the recitations of the independent claims for at least the reasons discussed above.

In addition to the reasons described above, Applicants also respectfully submit there is no clear and particular evidence of a motivation or suggestion to combine these references as required under Section 103. To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, and there must be a reasonable expectation of success of the combination. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. See MPEP § 2143. As stated by the Court of Appeals for the Federal Circuit, to support combining references in a § 103 rejection, evidence of a suggestion, teaching, or motivation to combine must be clear and particular, and this requirement is not met by merely offering broad, conclusory statements about teachings of references. *In re Dembiczaik*, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

As discussed above, Zhao relates to transmitting compressed GPS data to the mobile to reduce the amount of traffic data generated by the system. In contrast, Dussell relates to associating tasks with geographic location coordinates provided by a location determination unit. Accordingly, Dussell does not relate to how location

information is determined, but rather focuses on how location information is to be used. In further contrast, McClellon does not even relate to GPS systems, but rather relates to echo cancellation and audio systems. Applicants respectfully submit there is no clear and particular evidence of a suggestion or motivation as to why one of ordinary skill in the art would have combined these references given their very different natures and the different problems these references solve.

Furthermore, the evidence offered by the Official Action is not clear and particular and, in fact, appears to be the type of conclusory reasoning generally prohibited by the case law discussed above. The Official Action offers the following rationale as the motivation to combine the cited references:

It would have been obvious to one skilled in the art at the time of the invention to modify Zhao, such that indicating an elapsed GPS referenced time interval at the networked GPS time server between receiving a request for GPS time assistance at the networked GPS time sever, to provide means for the mobile to subtract out the elapsed time for roundtrip transmission and reception of the request and subsequent data. *Official Action, page 3.*

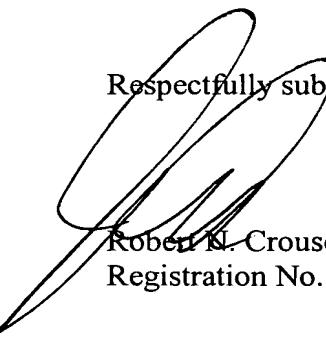
Applicants respectfully submit that the above-cited rationale relied upon by the Official Action in support of the rejection under Section 103 is the type of conclusory reasoning that is prohibited by the cited case law. In particular, the rationale offered by the Official Action appears to only state a conclusion that it would have been obvious to modify Zhao to provide the recitations which are admitted to be missing from Zhao. The offered rationale provides no clear or particular evidence as to why one of ordinary skill in the art would have combined these particular references. Applicants respectfully submit that there is no clear and particular evidence of a motivation or suggestion to combine Zhao, Dussell, and McClellon as required under Section 103.

Accordingly, independent Claims 1, 21, and 39 are patentable over the cited references for at least the reasons described herein. Furthermore, the dependent claims are also patentable for at least the reasons described above in reference to the independent claims.

CONCLUSION

Applicants have shown that even if the cited references were combined, the combination would not disclose or suggest all of the recitations of the pending claims as required under Section 103. Applicants have further shown that there is no clear and particular evidence of a motivation or suggestion to combine these references, and further, that the rationale offered by the Official Action does not meet the stringent standards for rejection under Section 103. Accordingly, Applicants respectfully request the withdrawal of all rejections and the allowance of all claims in due course. If any informal matters should arise, Examiner is encouraged to contact the undersigned by telephone at (919) 854-1400.

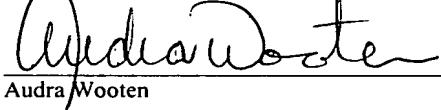
Respectfully submitted,


Robert N. Crouse
Registration No. 44,635

USPTO Customer No. 20792
Myers Bigel Sibley & Sajovec
Post Office Box 37428
Raleigh, North Carolina 27627
Telephone: 919/854-1400
Facsimile: 919/854-1401

Certificate of Mailing under 37 CFR 1.8 (or 1.10)

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on January 9, 2006.


Audra Wooten